

Claims

1. A urine collection device (1) for attachment to a pump (25) and for a user in a supine, or reclined position, said device including:-

an open-mouthed container (2) having a rim (3) around the mouth for being urged in use to seat generally around the periphery of the urine discharge region to receive urine discharged from the urethra,

the container (2) being adapted to fit between the legs of a user in a supine or reclined position,

the container (2) having at its lower part a reservoir basin (10) in which fluid may collect in use when the container (2) is applied to a user in a supine or reclined position, and

an outlet (9) in the lower part of the reservoir basin (10) through which urine may be drawn from the container,

characterised in that the rim (3) has a perineal wall portion (12) adapted in use to engage edgewise with the perineum to effect a fluid tight seal, and in that the container is provided with a vent (36)(a) spaced from said outlet and disposed above the liquid level in the reservoir basin (10) in use to allow venting of air through a wall of the container (2).

2. A urine collection device according to Claim 1 for a female user, wherein said rim (3) is generally of oblate curvilinear form, wherein a broader, upper end region of the rim (3) is adapted to be seated against the mons pubis (pubic bone region), and a narrower lower end region of the rim is adapted to be seated against the perineum, in use.

3. A urine collection device according to Claim 2, wherein the inner surface

region of the container extending inwardly from the lower end region of the rim defines a downwardly-inclined weir surface.

4. A urine collection device according to any of the preceding claims, wherein the upper and lower ends of the rim (3) define a notional contact plane (XX) which in use lies at between about  $100^{\circ}$  to  $135^{\circ}$  to the horizontal, when the user is reclined or supine.

5. A urine collection device according to any of the preceding claims, wherein the reservoir basin (10) is defined at least partly by a back wall portion (11) and a bottom wall portion (12) which converge downwardly towards said outlet (9).

6. A urine collection device according to Claim 6, wherein the reservoir basin (10) has a capacity of at least 10ml and preferably at least 20ml, when the device is applied to a user in a supine position.

7. A urine collection device according to Claim 5 or Claim 6, wherein said back wall portion (11) and said bottom wall portion (10) converge at an angle of between  $90^{\circ}$  and  $120^{\circ}$ , and preferably at about  $106^{\circ}$ .

8. A urine collection device according to any of Claims 5 to 7 when dependent on Claim 4, wherein said back wall portion (11) lies at an angle of between about  $120^{\circ}$  and  $160^{\circ}$ , and preferably about  $146^{\circ}$  to the notional contact plane.

9. A urine collection device according to any of the preceding claims, which further includes in the lower region of the mouth at least one weir plate means (15) which extends between opposed portions of the rim (3) and extending into the basin region (10) of the container.

10. A urine collection device according to any of the preceding claims wherein the outlet includes an tubular portion (9) integral with the container and having a drain inlet end which is located at the lowermost portion of the reservoir basin (10), and which extends upwardly to terminate in a drain outlet end.

5 11. A urine collection device according to any of the preceding claims, wherein the rim (3) has an inturned resiliently deformable lip extending around a part thereof for seating against the user's body and providing an internal peripheral gutter.

10 12. A urine collection device according to any of the preceding Claims, wherein said vent (36) includes a breather tube (37) disposed generally vertically, the upper end of said tube being located to the exterior of said container, to prevent escape of urine.

15 13. A urine collection device according to Claim 12, wherein said container is provided with guard surfaces (41) to prevent inadvertent blocking of the upper end of said tube (37) by the hand of the user in use.

14. A urine collection system, comprising a urine collection device (1) according to any of the preceding claims, a suction pump (25) for applying suction to said device, and a container (43) for receiving urine drawn from said collection device (1) by said suction pump.

20 15. A urine collection system according to Claim 14, wherein said urine collection device (1) has associated therewith a urine sensor and said system is operable on detection of urine by said sensor to start said suction pump (25).

16. A urine collection system according to Claim 14 or Claim 15 wherein said vent (36) is sized such that, in use, when the urine collection device (1) is

applied to the user, and the suction pump (25) operated, a slight negative pressure is present in the inside of the device to aid location and sealing of the device against the user.

17. A urine collection device (1) for attachment to a pump (25) and for a user in a supine, or reclined position, said device including:-

an open-mouthed container (2) having a rim (3) around the mouth for being urged in use to seat generally around the periphery of the urine discharge region to receive urine discharged from the urethra,

the container (2) being adapted to fit between the legs of a user in a supine or reclined position,

the container (2) having at its lower part a reservoir basin (10) in which fluid may collect in use when the container (2) is applied to a user in a supine or reclined position, and

an outlet (9) in the lower part of the reservoir basin (10) through which urine may be drawn from the container,

characterised in that said reservoir is defined at least partly by a back wall portion (11) and a bottom wall portion (12) which converge towards said outlet (9), and in that said back wall portion (11) lies at an angle of between 120° and 160° to a notional contact plane (XX) defined by the upper and lower ends of said rim (3).